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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/822,045 | 04/09/2004 | Masayuki Arakawa | 501646.20005 | 2252 |

26418 7590 04/04/2007

REED SMITH, LLP
ATTN: PATENT RECORDS DEPARTMENT
599 LEXINGTON AVENUE, 29TH FLOOR
NEW YORK, NY 10022-7650

| EXAMINER | |
|---|---|
| MRUK, GEOFFREY S | |
| **ART UNIT** | **PAPER NUMBER** |
| 2853 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|---|---|---|
| 3 MONTHS | 04/04/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/822,045 | ARAKAWA ET AL. | |
| | Examiner | Art Unit | |
| | Geoffrey Mruk | 2853 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *09 January 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-10 and 12-15* is/are pending in the application.

4a) Of the above claim(s) *1-8* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9,10 and 12-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Objections*

Claims 9 and 15 are objected to because of the following informalities: claims 9 and 15 appear to contain a typographical error, specifically "wherein the first space in greater in the x-direction than the second space." The examiner suggests "wherein the first space is greater in the x-direction than the second space." Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9, 10, and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Burr et al. (US 5,907,338).

With respect to claim 9, Burr discloses an ink-jet head (Column 1, lines 5-9) comprising:

- a joint member (Fig. 2, elements 146C-146F) having an ink pathway (Fig. 2, element 106) through which ink supplied from an ink supply source passes (Column 6, lines 24-29), an ink outlet port (Fig. 2, geometry of elements 146C-146F) formed at one end of the ink pathway, and a space (Fig. 2 below) which is formed in the vicinity of the one end of the ink pathway and whose cross-

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sectional shape and size in a direction perpendicular to an ink flow direction (Fig. 2 below, y-dir) toward the ink outlet port are constant along the ink flow direction (Fig. 2 below);

- a passage unit (Fig. 2, elements 136, 138, 140, 142, 144, 145, 146A, 146B) having a plurality of nozzles (Fig. 2, element 108) that eject ink, an ink receiving port (Fig. 2, geometry of element 146B) that is larger than the ink outlet port and receives the ink flowing out of the ink outlet port, a first ink passage (Fig. 2, element 146C) that has, at one end thereof, the ink receiving port and extends in the same direction as the ink flow direction toward the ink outlet port, and a second ink passage (Fig. 2 below) that extends from the other end of the first ink passage to the nozzles, the passage unit being connected to the joint member such that the ink receiving port confronts the ink outlet port; (Table 1) and
- a filter (Fig. 2, element 116) disposed within the first ink passage (Fig. 2, element 145) of the passage unit, wherein:
- a first space (Fig. 2 below) is formed between the ink receiving port and the filter, a cross-sectional shape and size of the first space in the direction perpendicular to the ink flow direction being constant along the ink flow direction;
- a second space (Fig. 2 below) is formed on a downstream side of the filter within the first ink passage, a cross-sectional shape and size of the second space in the direction perpendicular to the ink flow direction being constant along the ink flow direction; and the first space and the second space are contiguous to each other with the filter interposed therebetween (Fig. 2 below),

- wherein the first space is greater in the x-direction than the second space (Fig. 2 below).

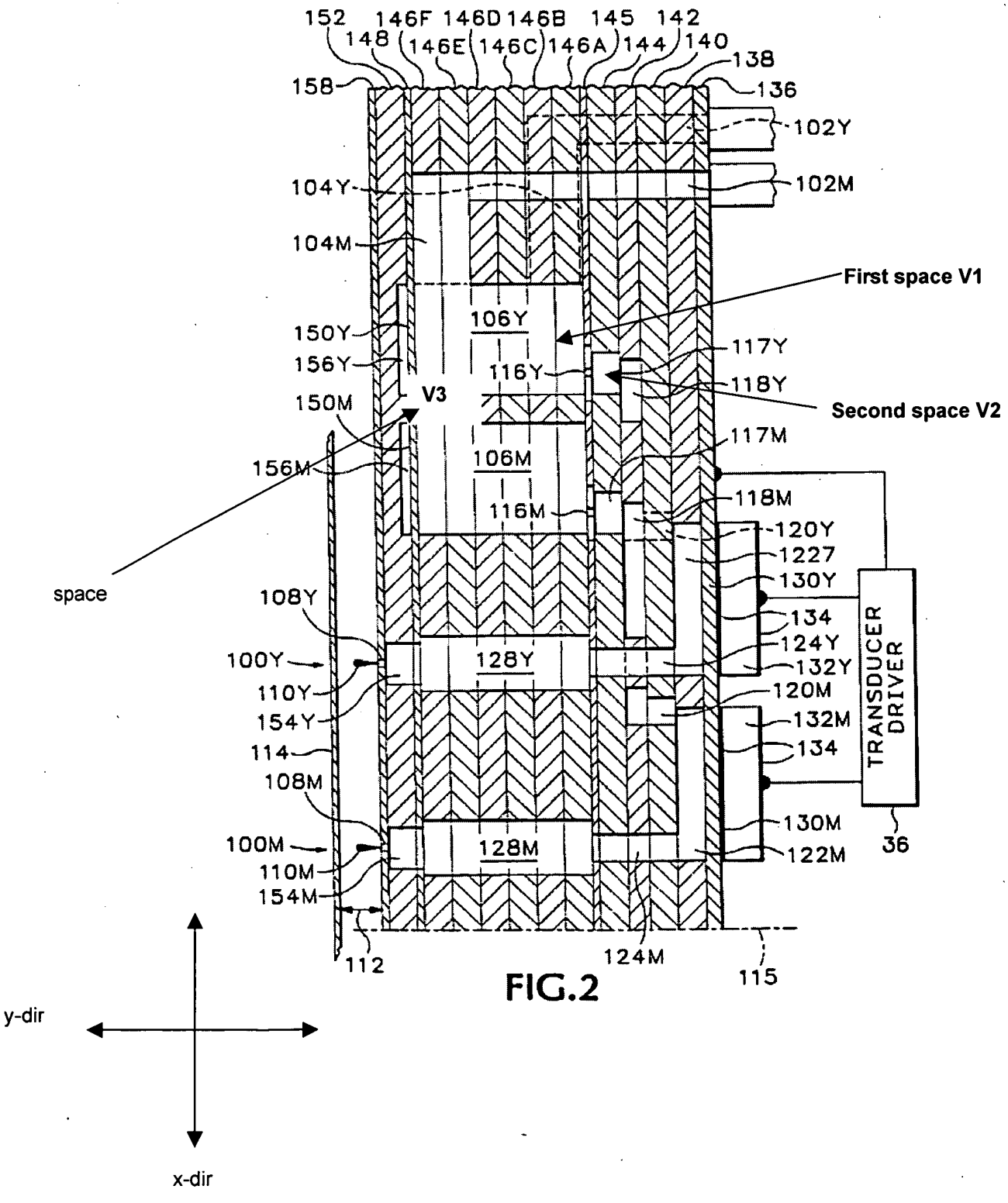


FIG.2

With respect to claim 10, Burr discloses the first space is shorter in the ink flow direction than the second space (Fig. 2 above).

With respect to claim 11, Burr discloses the first space is longer in the ink flow direction than the second space (Fig. 2 above).

With respect to claim 12, Burr discloses a flow regulator (Column 8, lines 33) is formed on the downstream side of the filter within the first ink passage, and is located at a downstream (Fig. 2 above) end of the second space.

With respect to claim 13, Burr discloses the passage unit has a layered structure of a plurality of sheet members with holes formed therein, the holes constituting the plurality of nozzles, the ink receiving port, the first ink passage, and the second ink passage (Column 7, lines 36-62);

- the filter (Fig. 2, element 116) is disposed at a position, on one of the plurality of sheet members, to cover a hole formed in the one sheet member and corresponding to the first ink passage; and
- a second member put immediately on the sheet member on which the filter is disposed has a hole in which the filter is fitted (Column 7, lines 48-51).

With respect to claim 14, Burr discloses the passage unit (Fig. 2, elements 136, 138, 140, 142, 144, 145, 146A, 146B) has a layered structure of a plurality of sheet members with holes formed therein (Fig. 5 – Fig. 19; Column 7, lines 35-62), the holes constituting the plurality of nozzles, the ink receiving port, the first ink passage, and the second ink passage (Fig. 1A and Fig. 1B);

- the filter (Fig. 2, element 116) is disposed at a position, on one of the plurality of sheet members, to correspond to the first ink passage; and
- a hole (Fig. 2, element 106) corresponding to the first ink passage and formed in another one of the sheet members spaced from the filter on the downstream side is smaller than other holes corresponding to the first ink passage and formed in other sheet members (Table 2).

With respect to claim 15, Burr discloses an ink-jet head (Column 1, lines 5-9) comprising:

- a joint member (Fig. 2, elements 146C-146F) having an ink pathway (Fig. 2, element 106) through which ink supplied from an ink supply source passes (Column 6, lines 24-29), an ink outlet port (Fig. 2, geometry of elements 146C-146F) formed at one end of the ink pathway, and a space (Fig. 2 below) which is formed in the vicinity of the one end of the ink pathway and whose cross-sectional shape and size in a direction perpendicular to an ink flow direction (Fig. 2 below, y-dir) toward the ink outlet port are constant along the ink flow direction (Fig. 2 below);
- a passage unit (Fig. 2, elements 136, 138, 140, 142, 144, 145, 146A, 146B) having a plurality of nozzles (Fig. 2, element 108) that eject ink, an ink receiving port (Fig. 2, geometry of element 60) that is larger than the ink outlet port and receives the ink flowing out of the ink outlet port, a first ink passage (Fig. 2, element 146C) that has, at one end thereof, the ink receiving port and extends in the same direction as the ink flow direction toward the ink outlet port, and a

second ink passage (Fig. 2 below) that extends from the other end of the first ink passage to the nozzles, the passage unit being connected to the joint member such that the ink receiving port confronts the ink outlet port; (Table 1) and

- a filter (Fig. 2, element 116) disposed within the first ink passage (Fig. 2, element 145) of the passage unit, wherein:
- a first space (Fig. 2 below) is formed between the ink receiving port and the filter, a cross-sectional shape and size of the first space in the direction perpendicular to the ink flow direction being constant along the ink flow direction;
- a second space (Fig. 2 below) is formed on a downstream side of the filter within the first ink passage, a cross-sectional shape and size of the second space in the direction perpendicular to the ink flow direction being constant along the ink flow direction; and the first space and the second space are contiguous to each other with the filter interposed therebetween (Fig. 2 below),
- wherein the first space (Fig. 2, above) is greater in the x-direction than the second space (Fig. 2 above) and wherein the first space is longer in the ink flow direction (Fig. 2 above, y-direction) than the second space.

***Response to Arguments***

Applicant's arguments with respect to claim 9 have been considered but are moot in view of the new ground(s) of rejection. The examiner makes of record that the claim objection dated 25 July 2007 is withdrawn in view of applicant's argument.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey Mruk whose telephone number is (571) 272-2810. The examiner can normally be reached on IFP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GSM
3/30/2007

GM

STEPHEN MEIER
SUPERVISORY PATENT EXAMINER